



#9

# IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Schwartz

Serial No.: 09/815,978

Filed: March 22, 2001

For: HYDRAZINE-BASED AND CARBONYL-BASED BIFUNCTIONAL CROSSLINKING REAGENTS

Art Unit: Unassigned

Examiner: Unassigned

I hereby certify that this paper and the attached papers are being deposited with the United States Postal Service as first class mail in an envelope addressed to:

ATTN: BOX PGPUB DRAWINGS  
Commissioner for Patents  
Washington, D.C. 20231, on this date.

04/17/01  
Date

Kelly Fischer

## PETITION PURSUANT TO 37 C.F.R. §1.182 - QUESTIONS NOT SPECIFICALLY PROVIDED FOR: REQUEST FOR ENTRY OF REPLACEMENT DRAWINGS

**ATTN: BOX PGPUB DRAWINGS**

Commissioner for Patents  
Washington, D.C. 20231

Dear Sir:

This is a Petition pursuant to 37 C.F.R. §1.182 to request the entry of replacement drawings in the publication of the above-identified application. The replacement drawings provided herewith are Formal Drawings. Therefore these drawings are of better quality than those originally filed. Applicants respectfully request the entry of the replacement drawings.

Respectfully submitted,  
HELLER, EHRMAN, WHITE & McAULIFFE LLP

By: \_\_\_\_\_

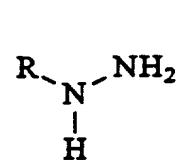
Stephanie L. Seidman  
Registration No. 33,779

Attorney Docket No.: 37154-753

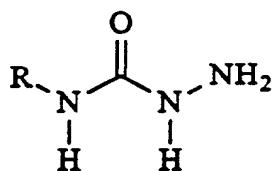
Address all correspondence to:

Stephanie L. Seidman, Esq.  
HELLER, EHRMAN, WHITE & McAULIFFE LLP  
4250 Executive Square, 7th Floor  
La Jolla, California 92037-9103  
Telephone: (858) 450-8400  
Facsimile: (858) 587-5360  
EMAIL: sseidman@hewm.com

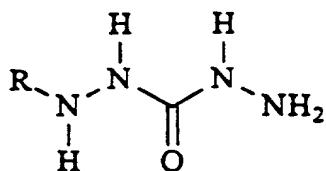
Title: HYDRAZINE-BASED AND CARBONYL-BASED  
BIFUNCTIONAL CROSSLINKING REAGENTS.  
Applicant: Schwartz, D.A.  
Serial No. 09/815,978 Filed: March 22, 2001  
Our Docket No.: 37154-753



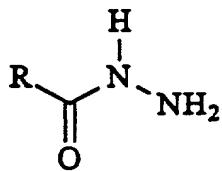
hydrazine



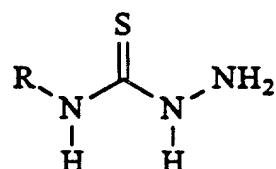
semicarbazide



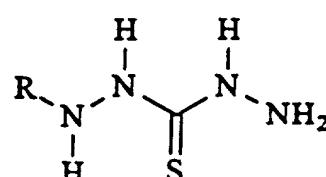
carbazide



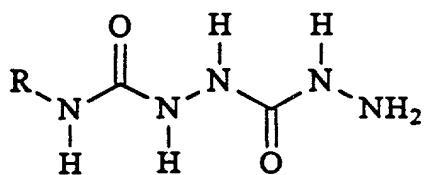
hydrazide



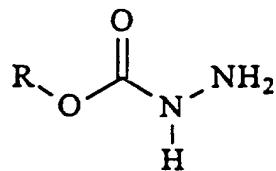
thiosemicarbazide



thiocarbazide



carbonic acid dihydrazine



hydrazine carboxylate

FIG. 1

Title: HYDRAZINE-BASED AND CARBONYL-BASED  
BIFUNCTIONAL CROSSLINKING REAGENTS.  
Applicant: Schwartz, D.A.  
Serial No. 09/815,978 Filed: March 22, 2001  
Our Docket No.: 37154-753

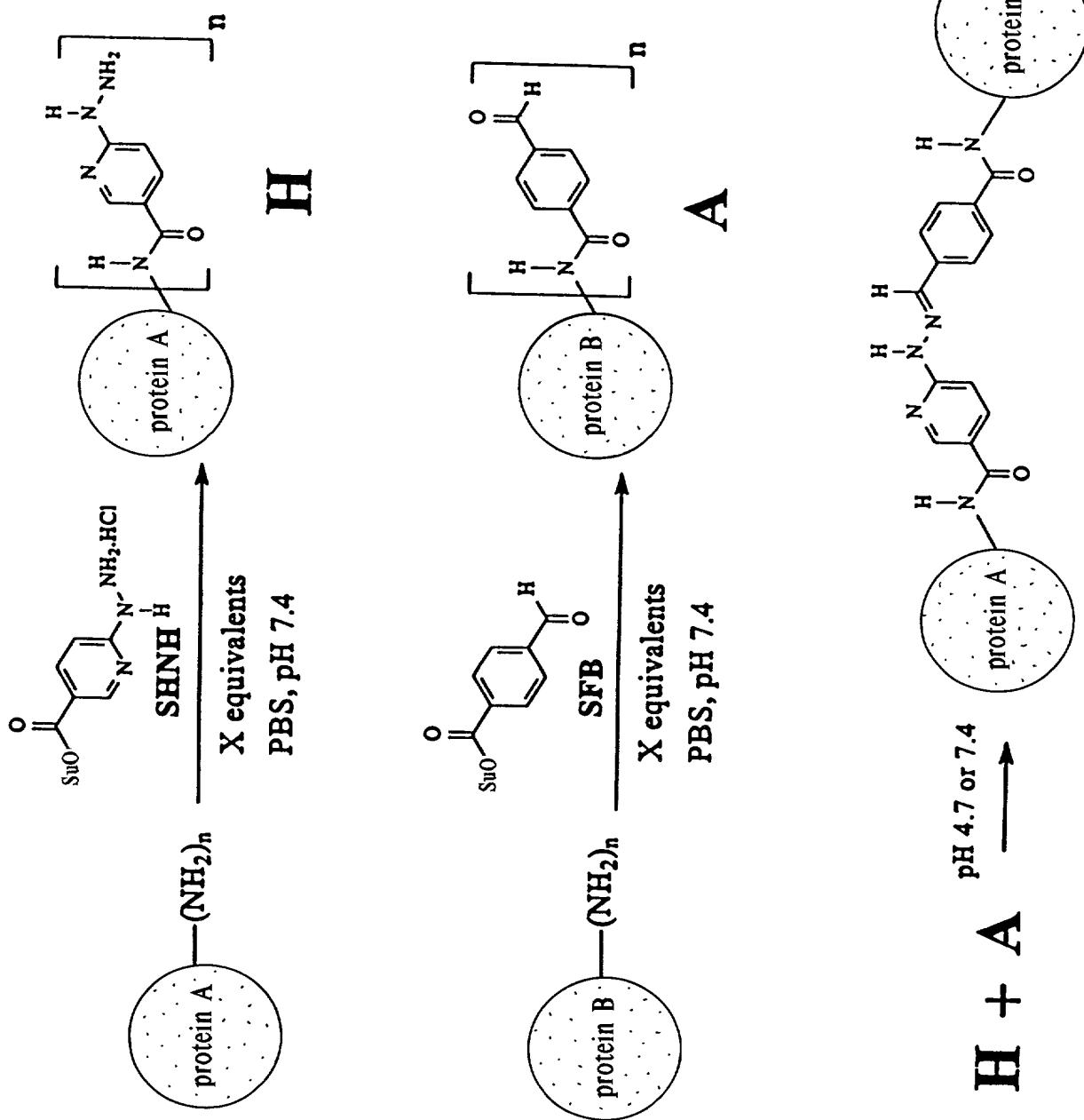


FIG. 2

Title: HYDRAZINE-BASED AND CARBONYL-BASED  
BIFUNCTIONAL CROSSLINKING REAGENTS.  
Applicant: Schwartz, D.A.  
Serial No. 09/815,978 Filed: March 22, 2001  
Our Docket No.: 37154-753

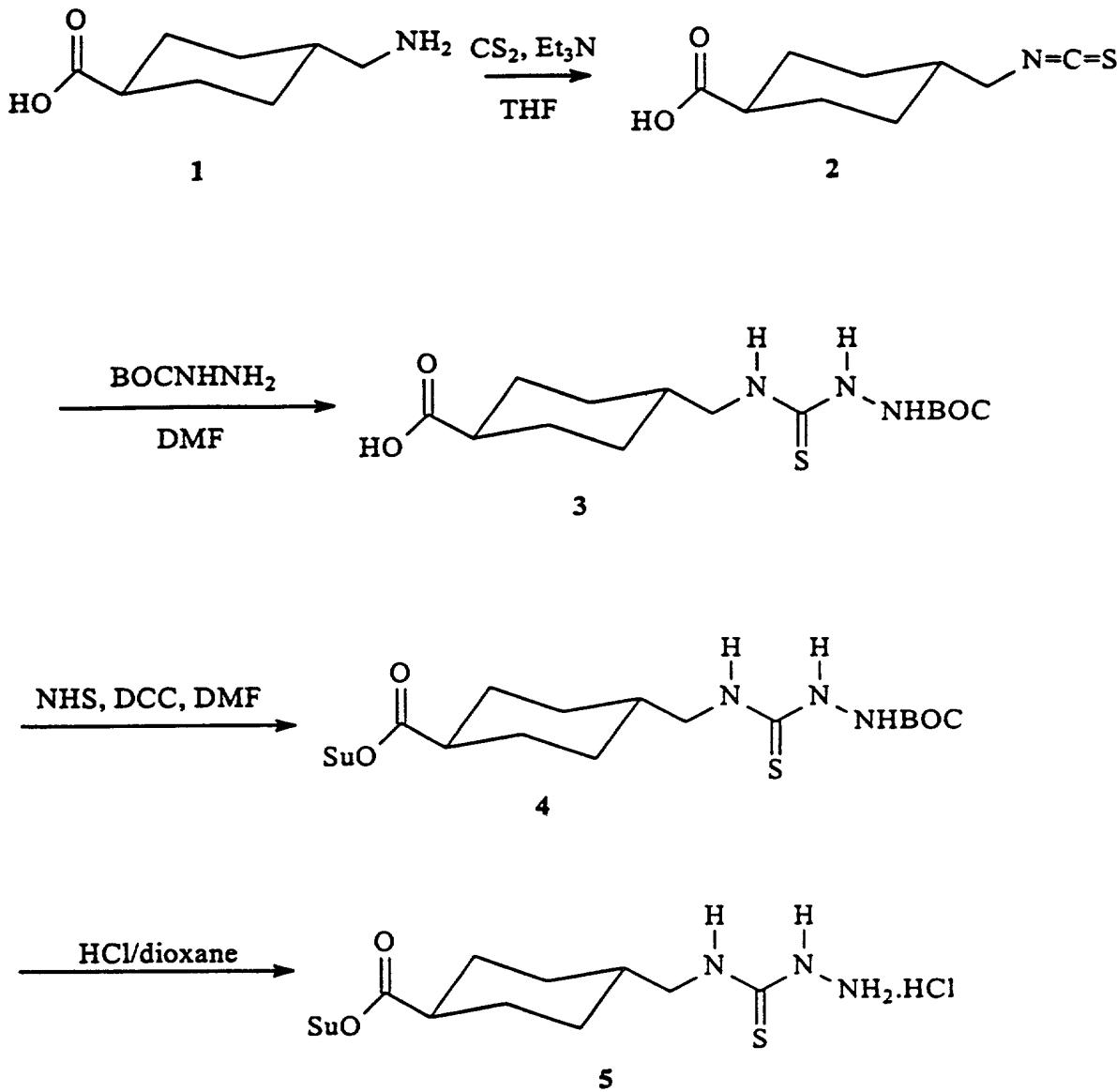


FIG. 3

Title: HYDRAZINE-BASED AND CARBONYL-BASED

BIFUNCTIONAL CROSSLINKING REAGENTS.

Applicant: Schwartz, D.A.

Serial No. 09/815,978 Filed: March 22, 2001

Our Docket No.: 37154-753

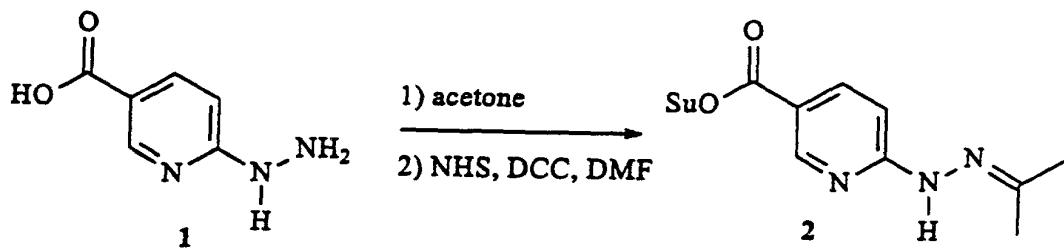
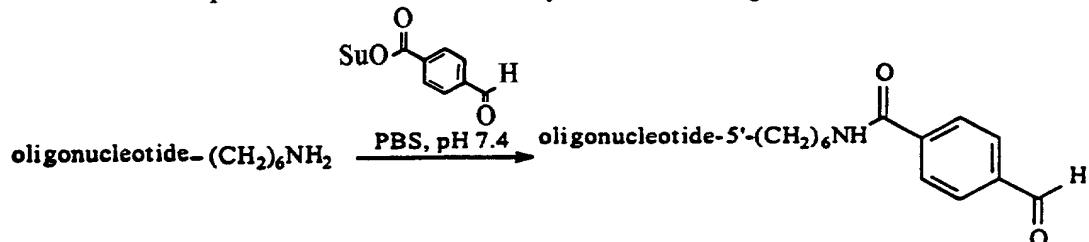
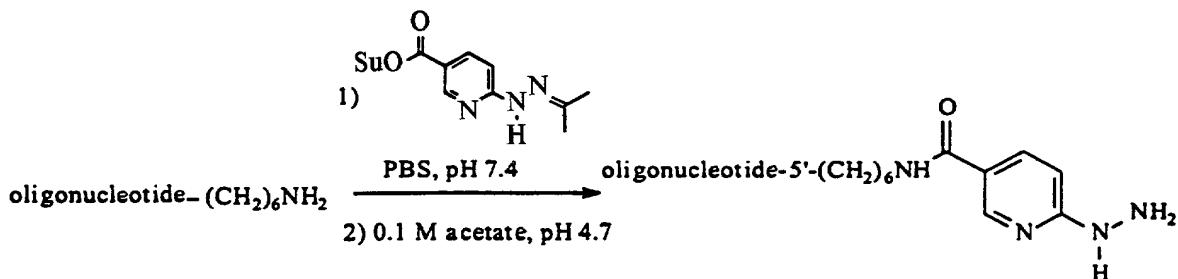


FIG. 4

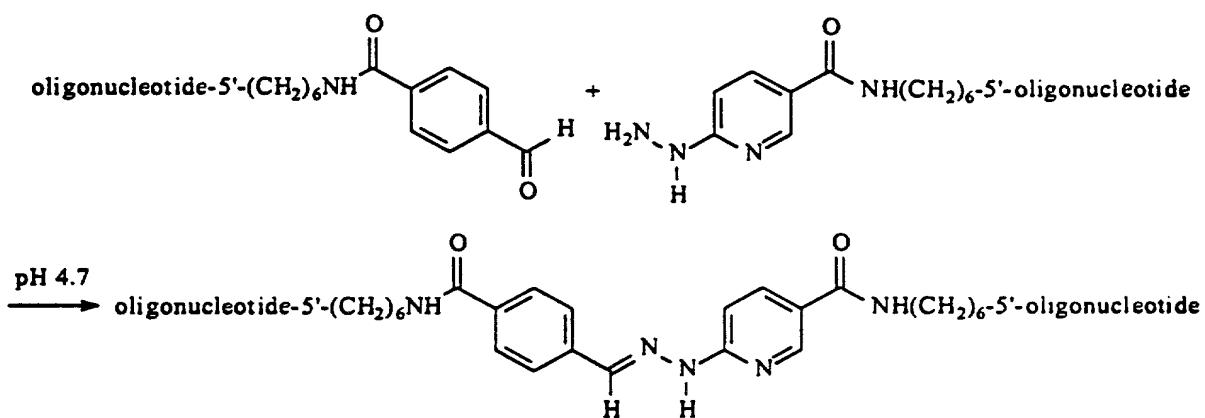
**Preparation of 5'-aromatic aldehyde-modified oligonucleotide:**



**Preparation of 5'-heteroaromatic hydrazine-modified oligonucleotide:**



**Conjugation of hydrazino-modified oligonucleotide to aldehyde-modified oligonucleotide**



**FIG. 5**

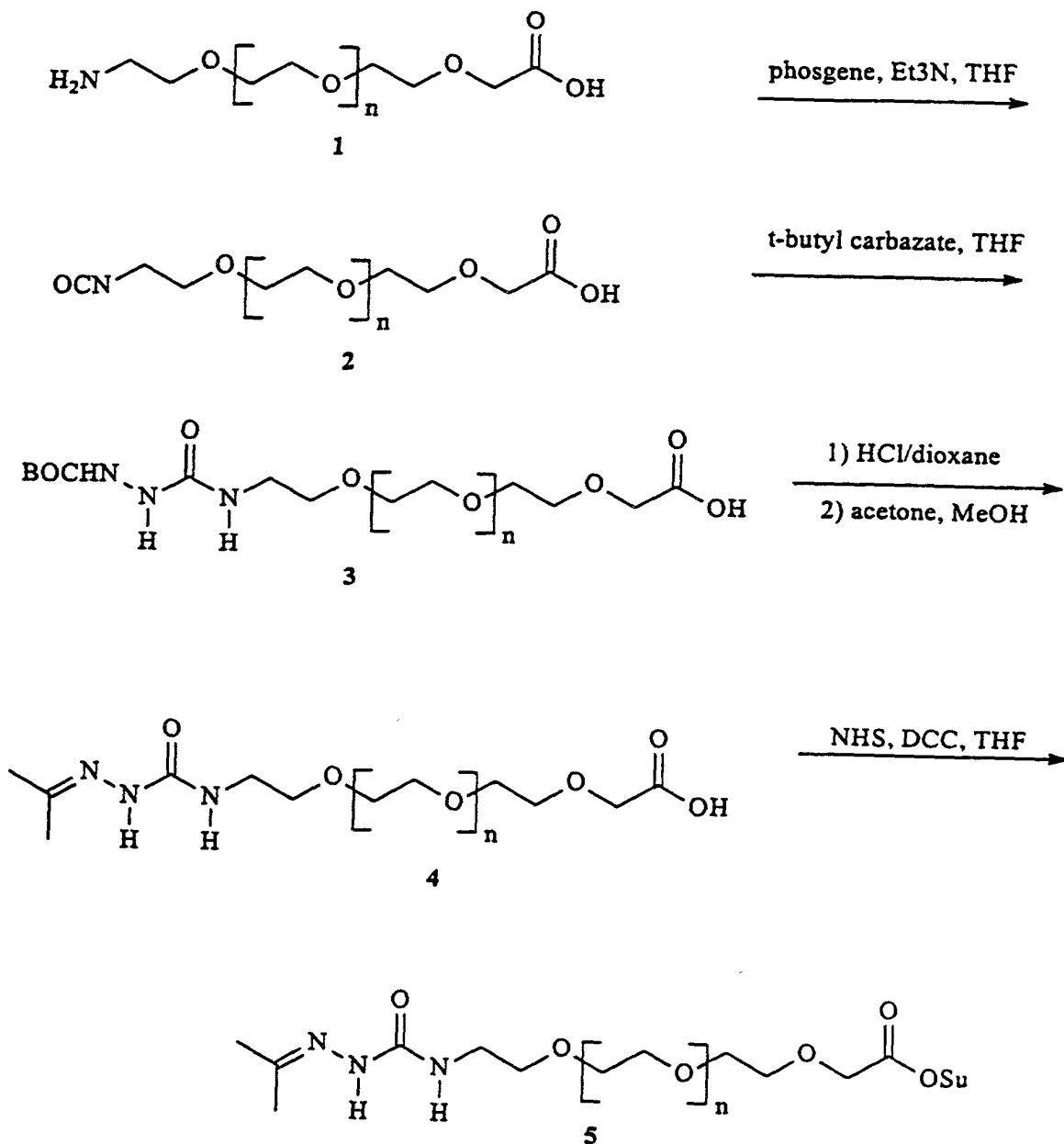
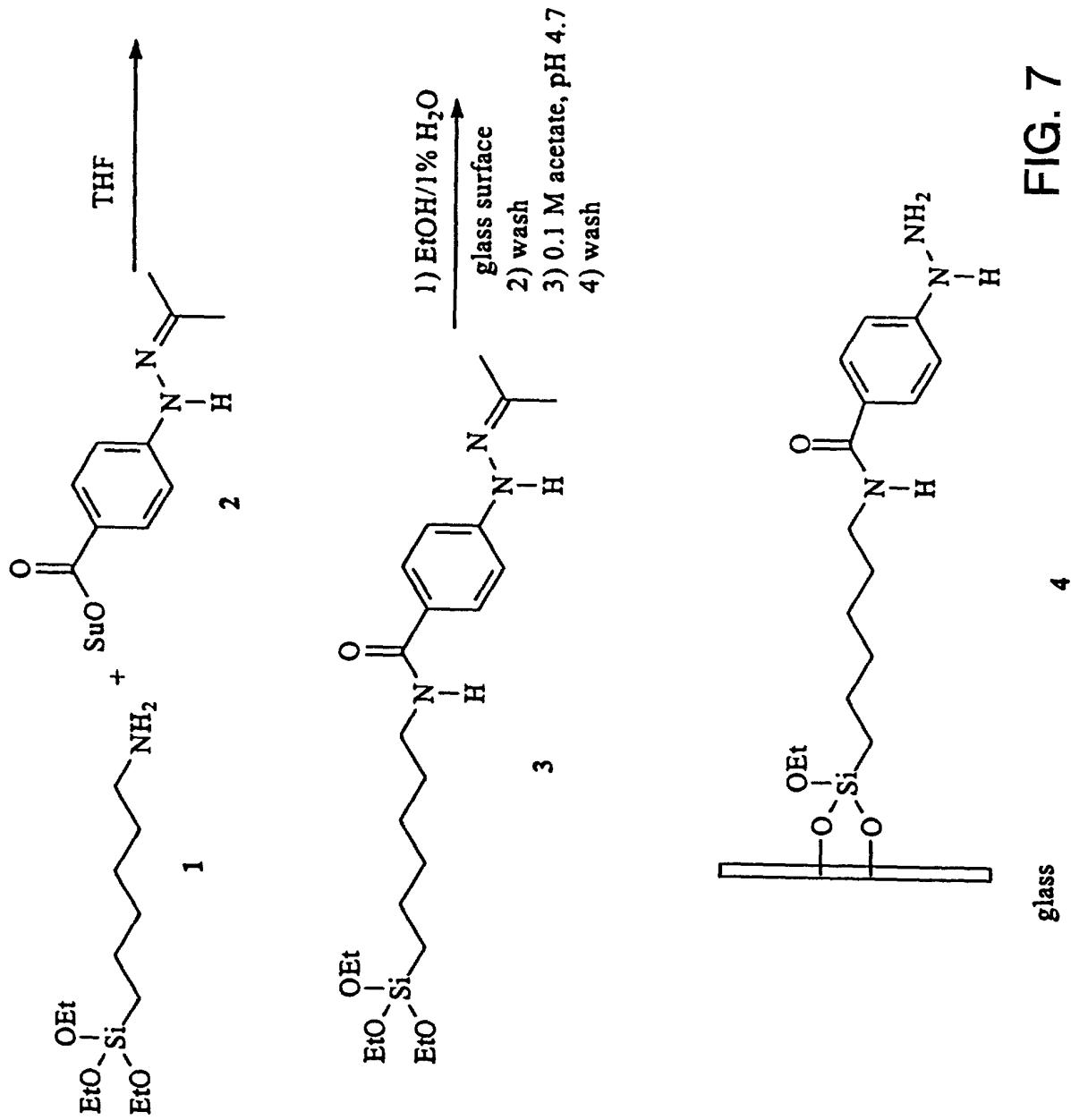
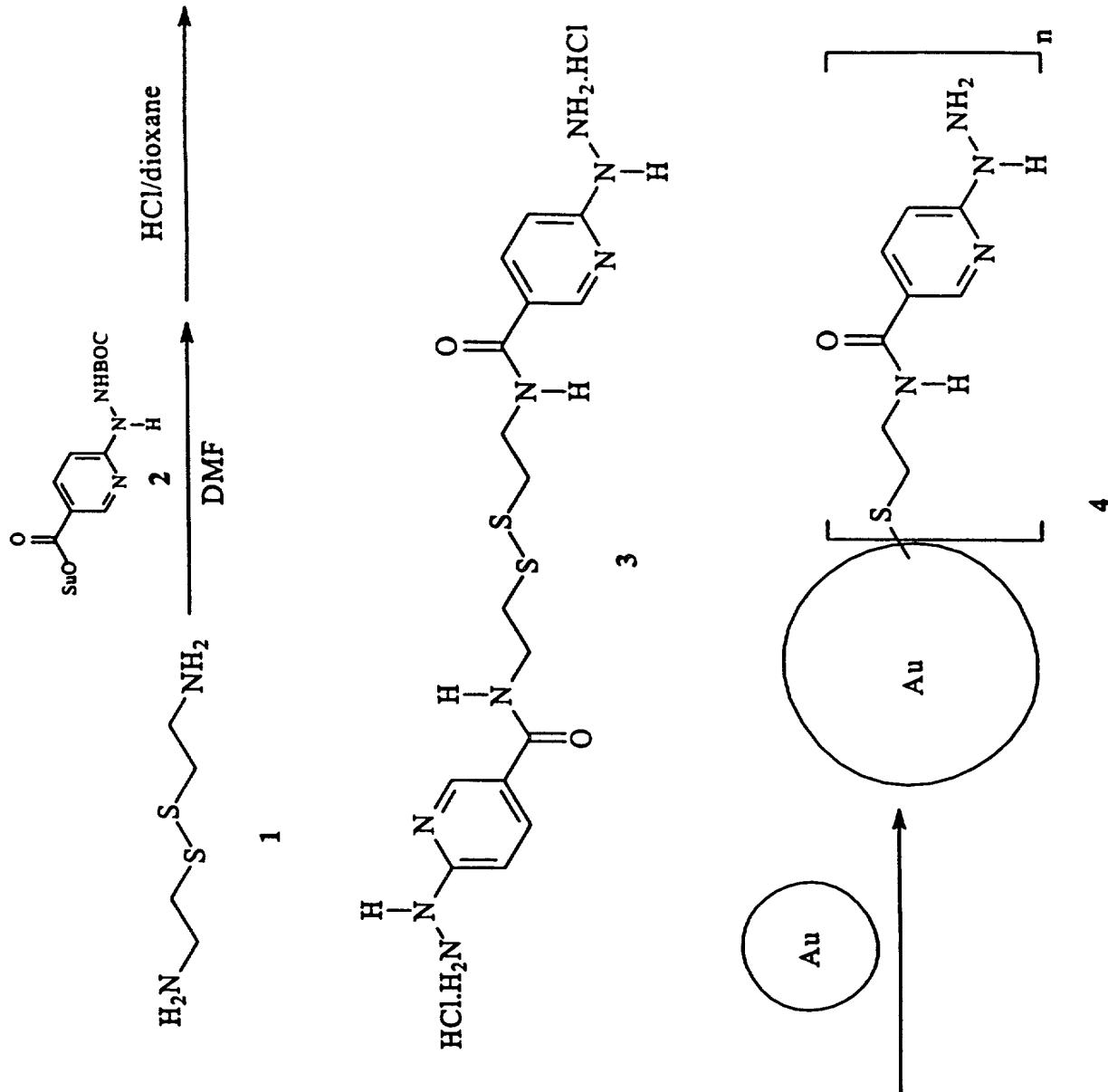


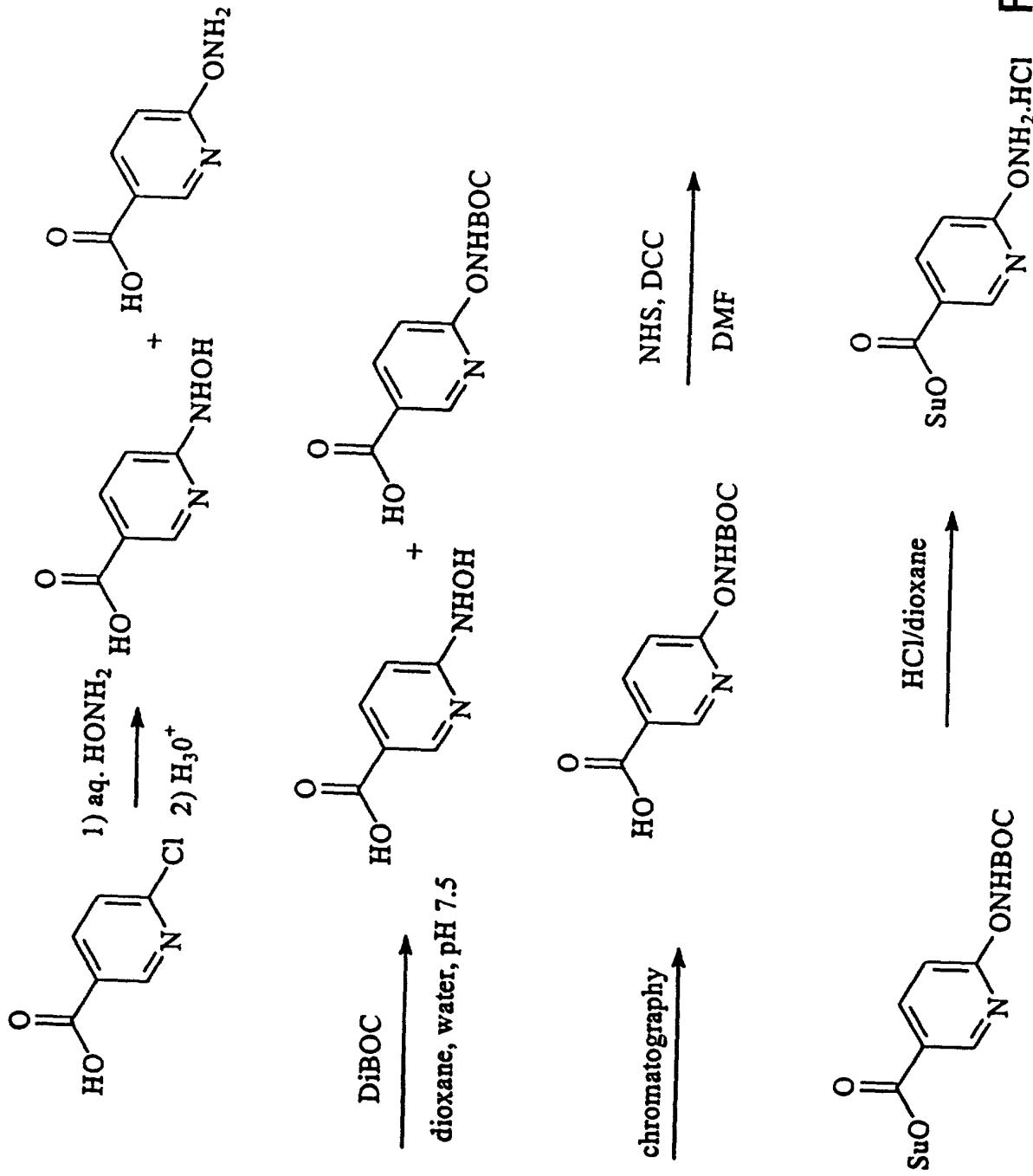
FIG. 6



Title: HYDRAZINE-BASED AND CARBONYL-BASED  
BIFUNCTIONAL CROSSLINKING REAGENTS.  
Applicant: Schwartz, D.A.  
Serial No. 09/815,978 Filed: March 22, 2001  
Our Docket No.: 37154-753

FIG. 8





5/3/01

Stephanie L Seidman Esq  
Heller Ehrman White and McAuliffe LLP  
4250 Executive Square 7<sup>th</sup> Floor  
La Jolla CA 92037-9103

Dear Applicant:

The Box PGPub replacement drawings for application number 09/815,978 received on 4/23/01 by the U. S. Patent and Trademark Office will be included for patent publication.

Telephone inquiries should be directed to Customer Service, Office of Initial Patent Examination, at 703-308-1202.



Signature of Reviewer, Office of Initial Patent Examination